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23 NOV 1984

MEMORANDUM FOR: (See Distribution List)

FROM:

[redacted]
Chief, Strategic Resources Division
Office of Global Issues

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SUBJECT:

Kampuchea's 1984/85 Rice Crop [redacted]

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1. The attached memorandum assesses preliminary rice production prospects in Kampuchea. A more definitive report on the crop will be produced early in 1985. [redacted]

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2. This assessment was produced by [redacted]
Agricultural Assessments Branch, Strategic Resources Division,
Office of Global Issues. [redacted]

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3. Comments and questions are welcome and may be addressed to the Chief, Agricultural Assessments Branch, [redacted]

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Attachment:

Kampuchea: 1984/85 Rice Crop Prospects
A Preliminary Assessment GI M 84-10214,
November 1984 [redacted]

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SUBJECT: Kampuchea's 1984/85 Rice Crop

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(November 1984)

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Central Intelligence Agency



Washington, D.C. 20505

DIRECTORATE OF INTELLIGENCE

23 NOV 1984Kampuchea: 1984/85 Rice Crop Prospects
A Preliminary AssessmentSummary

Based on our analysis of weather data, [redacted] embassy and press reports, we believe that it is too early in the crop season to confirm a serious shortfall in 1984/85 rice production, as predicted by the Kampuchean government. Reports of crop damage appear exaggerated and lags in rice planting can still be largely made up. The Kampuchean regime made similar claims of a rice shortfall last year, but the existence or size of the shortfall was not supported by all the evidence available. [redacted]

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This memorandum was prepared by [redacted] Agricultural Assessments Branch, Strategic Resources Division, Office of Global Issues. Comments may be directed to [redacted] Chief, Strategic Resources Division, [redacted]

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Kampuchea: 1984/85 Rice Crop Prospects
A Preliminary Assessment

Introduction

Kampuchea's 1984/85 rice crop has been threatened by adverse weather that has reportedly interfered with planting and has damaged some crops. In our view, however, similar problems with last year's crop did not cause a rice shortfall as large as that claimed by Phnom Penh. Although some area shortfalls and crop damage appear likely, we believe that the current crop season has not advanced sufficiently to accurately assess rice production for 1984/85. Sowing of rainy season rice has not yet concluded, and the dry season rice target has only recently been announced. Moreover, rice reported destroyed or severely damaged may yet recover to some degree. []

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Sowing and harvesting operations in Kampuchea extend through most of the year because the country uses many rice varieties with different length growing seasons. The timing of the monsoon rainfall and the extent of the area flooded greatly affect the pace of sowing, the total area planted from year to year, and the subsequent timing of the harvest. Rainy season rice, accounting for 90 percent of annual production, is planted from June through November, according to the duration of rainfall. The bulk of harvesting takes place from December through February. Dry season rice, which makes up 10 percent of production, is planted during November through March, but sowing also depends on the clearing of rainy season rice from the paddies. The area devoted to dry season rice depends on the extent of monsoon flooding, and most of the crop is grown in only five provinces served by the Tonle Sap and the Mekong River. Rainy season rice yields average 1.1 tons per hectare, and dry season rice yields average 1.6 tons per hectare, due to better light, more controlled watering, and less disease. []

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Assessment of whether any given year's rice output¹ will meet the needs of Kampuchea's people is complicated by disagreements on the size of an "adequate" ration and the size of Kampuchea's population. The FAO uses, as a minimum emergency ration, an individual rice requirement of 12 kilograms per month (about 395 grams per day). While such a ration will sustain life, it is not sufficient for persons doing farm labor. An 18 kilogram monthly ration is considered the ideal amount to support physical labor. Phnom Penh has stated a minimum requirement of 14 kilograms per month. Population statistics

¹ To calculate the amount of milled rice available from total rice production, a 15 percent seed and loss factor is subtracted, and the remainder is multiplied by a .63 milling factor. []

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supplied by the Kampuchean regime are contradictory, for the vast numbers killed during Pol Pot's rule would not allow an increase to the 7.2 million now claimed by Phnom Penh. Using a May 1981 census figure of 5,746,141 announced in the press, and assuming a high 3.5 percent annual growth rate, we estimate a population of about 6.6 million under Phnom Penh's control. With the doubtful reliability of Kampuchean statistics, however, we believe Kampuchea's population can be better estimated as ranging from six to seven million. []

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1984/85 Crop Season

In early November Kampuchea's agricultural minister announced that drought and floods had held rainy season rice sowing to only 1.2 million hectares or 64 percent of the plan.² We believe that weather problems were not severe enough to cause such a lag in sowing. Analysis of [] weather data points to a normal monsoon this year, in which rains would have alleviated any drought before major damage could occur. The monsoon began in June and ended in the first half of October, with no prolonged dry periods during that time.³ Amounts and duration of rainfall would not have resulted in unusual flooding across large areas. Furthermore, reports that rice was totally destroyed ignore the common occurrence of crop recovery after adverse weather. []

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Press reports of drought and flooding which we have seen over the last several months are not consistent with other evidence that we have on this issue. These reports--mainly from Kampuchean broadcasts--tend to be contradictory and appear to double count the areas claimed to be damaged. This has been typical of agricultural reporting from Kampuchea in the past. For example:

- o In mid-July rainfall thus far had created excellent rice-growing conditions throughout the country, but by October, the regime assessed July and August as a drought period. Nevertheless, by the end of August serious flood damage to crops was claimed by the government and such reports continued through September and October.
- o At the end of August one report said that drought had affected 47,000 hectares of rice in five provinces, while another report said 24,300 hectares of rice had been

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² Using the previously announced plan of 1.7 million hectares, a sown area of 1.2 million hectares gives a 71 percent plan fulfillment. []

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³ Rainfall totals within Kampuchea are not available, so data from surrounding countries are used. []

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destroyed. In an October appeal for aid, the agriculture minister claimed that 14 provinces had experienced drought since mid-season.

- o Also by the end of August the regime characterized flood damage as the total loss of 200,000 hectares of rice, and according to another report, over 283,000 hectares of crops in 11 provinces were destroyed. In October a flood loss of over 264,000 hectares of rice was announced, but only five affected provinces were listed. A mid-September broadcast described the floods as causing losses on 224,000 hectares of rice and implied that the damage could be made up by more sowing efforts.
- o By late October the government claimed that 264,000 hectares of rice had been destroyed, this time by both drought and flood. [REDACTED]

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Sowing Campaign

An examination of the sowing progress during the current rainy season does reveal a hectarage shortfall when seen against last year's pace. Lack of recent sowing data, however, appears to be a primary reason for the small area total. Rainy season rice plantings reached 1.2 million hectares by early November; at the same time last year the comparable figure was about 1.4 million hectares. Two key provinces, however, Batdambang and Kampong Cham, have not reported planting progress since July and August respectively, while figures from most other provinces date from September and early October. When additional data on these areas are in, we believe the shortfall from last year's pace will narrow substantially and may be eliminated. [REDACTED]

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1983/84 Rice Crop

Available information on the 1983/84 Kampuchean rice crop, which also reportedly suffered drought and flood damage, casts

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doubt that the rice shortfall claimed by the regime for last year did occur:

- o Kampuchean government statistics supplied to aid officials in August did not support the estimated shortfall of almost 300,000 tons, according to the US embassy in Bangkok. The Kampuchean government used a 14 kilogram monthly ration and a 7.2 million population to figure this shortfall, which the embassy says would be 40,000 tons or less using the FAO 12 kilogram ration and allowing for other food crops harvested. A smaller population would decrease the rice deficit further.
- o In our view, the regime's sown area for rainy season rice, 1,570,000 hectares, seems small when weighed against the latest available provincial sowing figures, which show a total of 1,663,000 hectares sown, an increase from the 1,614,000 hectares given in our estimate of January 1984. Dry season rice hectarage also was larger in the provincial totals than in the August government figures.
- o Comments from Soviet officials and a Vietnamese broadcast indicate that the 1983/84 crop was much higher than the 1,675,000 tons disclosed to aid officials. When claiming a successful recovery from the poor conditions under Pol Pot, such comments put last year's output at 2.0 million tons from an area of 1.7 or 1.8 million hectares.
- o Incomplete data on provincial sales of rice to the government indicate that many provinces met or surpassed targets.
- o Aid officials and journalists travelling in Kampuchea did not see evidence of hunger or unavailability of rice, and refugee arrivals at the Thai border did not claim to be short of food. [redacted]

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Outlook

At this stage in the 1984/85 crop season, it is too early to be certain that a large rice shortfall as forecast by the Kampuchean regime will occur. Past information supplied by the regime is of doubtful accuracy and sown area figures almost surely will be augmented in the coming weeks. [redacted]

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[redacted] improvement of rice crops previously assessed as destroyed or damaged is likely. While exact production for the rainy season crop cannot yet be determined, it appears that it should be average or better--given a gain in sown area--because the monsoon was more consistent and normal than last year's. A successful effort to plant the 190,000-hectares planned for dry season rice will help alleviate a shortage, because plentiful moisture should promote average or better yields. [redacted]

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Table 1

Kampuchea: 1984/85 Rainy Season Rice^a

Province	1983/84 sown area (ha) (date)	1984/85 sown area (ha)	Percent of plan	Reported weather conditions
Batdambang	291,000	102,500 (Jul)	34%	floods
Prey Veng	246,300	148,000 (Oct)	65%	drought & floods
Siemreab-Otdar				
Meanchey	163,000	211,000 (Sep)	128%	floods
Kampong Cham	158,000	117,000 (Aug)	60%	floods
Takev	135,200	108,000 (Sep)	76%	drought & floods
Svay Rieng	130,000	70,400 (Oct)	50%	drought
Kampong Thum	105,000	80,000 (Sep)	62%	drought & floods
Kampot	96,900	88,200 (Sep)	93%	--
Kampong Spoe	75,000	25,700 (Sep)	32%	drought
Pouthisat	75,200	23,200 (Sep)	29%	floods
Kandal	52,000	28,900 (Aug)	44%	floods
Kampong Chhnang	48,500	31,700 (Sep)	60%	floods
Other ^b	86,800	44,700 (Aug-Oct)	53%	floods
Total	1,662,900	1,079,300	63%	

^a According to [] press, and broadcast data. Numbers have been rounded. []

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^b Includes Kracheh, Preah Vihear, Rotanokiri, Stoeng Treng, Kaoh Kong, Mondol Kiri, and Kampong Saom and Phnom Penh municipalities. Sown areas for 1984/85 have not been reported for Stoeng Treng, Kaoh Kong, and Kampong Saom municipality. []

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Table 2

Kampuchea's Rice Crops^a

	<u>1980/81</u>	<u>1981/82</u>	<u>1982/83</u>	<u>1983/84</u>	<u>1984/85</u>
<u>Rainy Season Rice</u>					
Planned area (thousand hectares)	1,500	1,700	1,600	1,600	1,700
Harvested area (thousand hectares)	1,232	1,300	1,545	1,358 ^b	1,200 (sown as of Nov)
(% of plan)	82%	76%	97%	85%	71%
Yield (metric tons/hectare)	1.19	1.0	1.16	1.08	--
Production (thousand metric tons)	1,466	1,300	1,788	1,467	--
<u>Dry Season Rice</u>					
Planned area (thousand hectares)	123	150	165	155	190
Harvested area (thousand hectares)	88	149	135	105 ^c	--
(% of plan)	72%	99.6%	82%	68%	--
Yield (metric tons/hectare)	1.30	1.7	1.6	1.79	--
Production (thousand metric tons)	115	256	216	208 ^d	--
<u>Total Rice</u>					
Harvested area (thousand hectares)	1,320	1,449	1,680	1,463	--
Production (thousand metric tons)	1,581	1,556	2,004	1,675 ^e	--

^a Harvested area, yields, and production for 1980/81 are FAO estimates, data for 1981/82, 1982/83, and 1984/85 are from Kampuchean press and broadcasts, and data for 1983/84 are from the US embassy in Bangkok. Numbers have been rounded.

^b The 1,358,000-ha harvested area is based on 1,570,000 ha sown, with a subtraction of 212,000 ha damaged. Provincial sowing figures, however, show a total area of 1,663,000 ha.

^c The 105,000-ha harvested area is based on 116,000 ha sown, with a subtraction of 11,000 ha damaged. Incomplete provincial sowing figures, however, show a total area of 119,000 ha.

^d Using the area and yield shown, dry season production would be 188,000 tons instead of the 208,000 tons reported.

^e Other reports from Kampuchea, Viet Nam, and the Soviet Union put 1983/84 production at 2.0 million tons from an area of 1.7 or 1.8 million hectares.

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